

Patent
42479-8300

IN THE SPECIFICATION:

Please amend Page 15, Paragraph [0067] to read as follows:

Figures 3 and [[14]] 4 show a second embodiment according to the invention. It is noted that the same structural members illustrated in the first embodiment will be given the same reference numerals in the second embodiment; therefore, a description thereof will not be repeated.

Please amend Page 15, Paragraph [0068] to read as follows:

In comparison of the analyzer 10 according to the second embodiment to that of the analyzer 1 according to the first embodiment, these two analyzers are similar in that they have the collecting unit 3 which collects the particulate matter 2 contained in the atmosphere as the sample gas S, the mass measuring unit 4 which measures the mass of the particulate matter 2, and the composition analyzing unit 9 which analyze the composition such as the metallic elements in the particulate matter 2. However, the analyzer 10 is different from the analyzer 1 in that the analyzer 10 is provided with a plurality of filters 11 instead of the tape-shaped filter 5 of the analyzer 1 and a filter holding mechanism 12 of[[']] a turntable-type structure for holding the plurality of filters 11 instead of the filter holding mechanism 6 of the analyzer 1 for holding the tape-shaped filter 5.

Please amend Page 17, Paragraph [0079] to read as follows:

In concurrence with the formation of the measuring spot 7, the mass measuring unit [[14]] 4 is operated to measure the particulate matter 2 collected in the measuring spot 7. The

Patent
42479-8300

details of the measuring process by means of the mass measuring unit 4 is the same as those described with respect to the first embodiment.

Please amend Page 23, Paragraph [0106] to read as follows:

The sample gas supplying mechanism 36 has an upper chamber 42, a lower chamber 43, a displacing unit 44, a sample gas introducing pipe 45 and a sample gas outlet pipe 46, the upper chamber 42 being placed above the filter unit mounting bay 39 which is provided on the circumference of the turntable 37, the lower chamber 43 being placed opposite to the upper chamber ~~[[29]]~~ 42 with respect to the mounting portion 25, the displacing unit 44 supporting the two chambers 42, 43 and moving the two chambers 42, 43 in the direction of separating or approaching each other, the sample gas introducing pipe 45 supplying the sample gas into the upper chamber 42, and the sample outlet tube 46 discharging the sample gas transferred into the lower chamber 43 to the outside. A sampling pump (not shown) such as a vacuum pump is installed at an appropriate position in the sample gas outlet tube 46. The sampling pump is controlled to suck the atmosphere using a mass flow controller (not shown), a differential pressure method or the like, so that the sucking flow rate can be set to meet the specified flow rate, i.e., 16.7 L/min.

Please amend Page 24, Paragraph [0107] as follows:

The upper chamber 42 is provided with a sample gas delivery port 47 in the lower end thereof, which delivery port 47 abuts against the top surface of the retaining plate 26 to cover the through hole 33 of the retaining plate 26 holding the filter 21 and serves to deliver the sample gas S flown through the sample gas introducing pipe 45 onto the top surface of the filter ~~[[1]]~~ 21.

42479.8300PRICE/IRVW/7204

Patent
42479-8300

The lower chamber 43 is provided with a sample gas receiving port 48 in the upper end thereof, the receiving port 48 abuts against the bottom surface of the base plate 25 to cover all of the through holes 29 (or the filter mounting part 27) of the base plate 25 holding the filter 21 and serves to receive the sample gas which passes through the filter 21 from its top surface to its bottom surface.

Please amend Page 24, Paragraph [0108] to read as follows:

The displacing unit 44 includes, as shown in Figure [[7]] 8, an upper chamber arm 51, a lower chamber arm 54, a rod type member 57 and a guide bar 58, the upper chamber arm 51 supporting the upper chamber 42 and having a female screw 49 and a guide hole 50 which are disposed vertically, the lower chamber arm 54 supporting the lower chamber 43 and having a female screw 52 and a guide hole 53 which are disposed vertically, the rod type member 57 penetrating through the female screws 49, 52, being threaded with male screws 55, 56 which mate with the female screws 49, 52 and being rotatable around its own vertical axis, and the guide bar 58 penetrating through the guide holes 50, 53. Note that the female screws 49, 52 are threaded oppositely to each other, and accordingly, the male screws 55, 56 of the rod type member 57 are also threaded oppositely to each other.

Please amend Page 25, Paragraph [0110] to read as follows:

To the contrary, when the rod type member 57 is rotated in the other direction, the upper chamber arm 51 is caused to be displaced downward with the guide of the guide bar 58, and the lower chamber arm 54 is displaced upward with the guide of the guide bar 58. As a result of such displacement, the upper chamber 42 is caused to displace downward and the lower chamber

42479.8300.PAJCEN.DRV.467204

Patent
42479-8300

43 is caused to displace upward, and these two chambers 42, 43 approach each other, and finally the upper chamber 42 and the lower chamber 43 come to hold therebetween the filter unit 24 which is inserted with the filter ~~[[1]]~~ 21.

Please amend Pages 26-27, Paragraph [0114] to read as follows:

Further, the cover 60 is provided on its circumference with a lid 61 which is operable for open and close, which lid 61 is pivotable around a hinge 62 disposed on the bottom surface of the cover 60. When the lid 61 is in the closed position, the inside of the cover 60 is kept off the air from the outside of the cover 60. When the lid 61 is in the open position, the filter unit 24 can be attached/detached to/from the filter unit mounting portion ~~[[39]]~~ 25.

Please amend Page 27-28, Paragraph [0122] to read as follows:

Then, the lid 61 is opened, and the filter unit ~~[[54]]~~ 24, which includes the filter 21 with the collected particulate matter and has been moved to the position engaging the lid 61, is removed out of the filter unit mounting bay 39, and another filter unit 24 including a fresh filter 21 for collecting the particulate matter is mounted into the filter unit mounting bay 39. Then, the lid 61 is closed, and the filter 21 in the next filter unit 24, which takes the position engaging the sample gas supplying mechanism 36, is put into the practice of collecting the particulate matter as described above. The rotation of the turntable 37 and the operation of the sample gas supplying mechanism 36 are controlled by a controller unit such as a microprocessor (not shown) to be operated alternately and automatically.

Patent
42479-8300

Please amend Page 28, Paragraph [0124] to read as follows:

The filter 21 can also be supplied with an impregnated tag or label material which can be carried in the reinforcing layer ~~[[22]]~~ 23. This predetermined reference material is a material other than the SPM (a measuring target material) included in the atmosphere, and in a case where a quantitative analysis after measurement on a concentration of SPM with a β -ray is conducted with a PIXY analyzer, an element selected from the group consisting of Ti, Br, In, Pd and the like is adopted and a method is applied that the reinforcing layer ~~[[22]]~~ 23 is impregnated into the element or woven therewith to cause the element to be carried therein in a predetermined amount. In a case where the quantitative analysis is conducted with an ion chromatographic instrument, a method is applied that the reinforcing layer ~~[[22]]~~ 23 is impregnated with or woven therewith with an element selected from the group consisting of Al, Ca, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Zn and the like to cause the element to be carried therein at a predetermined amount. The label material is preferably carried in the reinforcing layer ~~[[22]]~~ 23 since the SPM collecting section ~~[[23]]~~ 22 is made of fluororesin, and it is difficult for the label material to be carried in the SMP collecting section ~~[[23]]~~ 22 with certainty, while the reinforcing layer ~~[[22]]~~ 23 is a non-woven cloth low in hygroscopicity and made of one of polyethylene, polyethylene terephthalate, nylon, polyester and polyamide, and can carry the label material therein with certainty.

Please amend Page 29, Paragraph [0128] to read as follows:

The sampler 34 has the following effects. A conventional sampler, which is operated by the batch for collecting the particulate matter on a filter with a cycle of at least 23 or 24 hours, must be stopped to change the filter after every cycle of an operation of collecting the particulate

Patent
42479-8300

matter so that it is very time-consuming when plural cycles of operation for collecting particulate matter are carried out successively. On the contrary, the sampler ~~[[22]]~~ 34 according to this embodiment is arranged, so that the turntable and the sample gas supplying mechanism are operated alternately and automatically, whereby the operation of collecting the particulate matter using the filter unit 24 (filter 21) and the change of the filter unit 24 can be carried out automatically and successively. Therefore, an operation such as changing the filter unit 24 is not required after every cycle of collection of particulate matter, and, as a result, the time and trouble for the collection of particulate matter can be shortened and saved.

Please amend Page 30, Paragraph [0133] to read as follows:

Yet further, the time for passing the sample gas S through the filter ~~[[1]]~~ 21 for collecting the particulate matter in the sample gas S is not limited to 24 hours, but can be 1 or a few hours or several days. The sampling time can be determined depending on the type or concentration of the sample gas.

Please amend Page 30, Paragraph [0134] to read as follows:

Yet further, the number of the lid ~~[[34a]]~~ 26 attached to the cover 34 is not limited to one, but may be plural. In addition, the number of the mounting portion 25 engaged by a single lid ~~[[34a]]~~ 26 is not limited to one, but can be plural.

Please amend Page 30, Paragraph [0135] to read as follows:

In the case of the sampler provided with a single lid ~~[[34a]]~~ 26 and a single mounting portion 25 which is engaged by the lid, when the filter 21 is intended to be removed after the

Patent
42479-8300

sampler has been operated to collect particulate matter for several times successively without changing the filter 21, the turntable 23a is required to be rotated, then the filter 21 is taken out. However, such an inconvenience can be solved by attaching a plurality of lids [[34a]] 26 and mounting a plurality of mounting portions which are engaged by the ~~plural-lid~~ plurality of lids [[34]] 26.

42479-8300-PRCE70RYM07204